

10 20 30 40 50 60
RCHD005.COMPLETE(1>288)-> GGCTTAGATGCAGCCTGCAAAATTAACTTTGATTTTTCATCTTGTGAAGCAGTGCCTGT
GGCTTAGATGCAGCCTGCAAAATTAACTTTGATTTTTCATCTTGTGAAGCAGTGCCTGT

70 80 90 100 110 120
RCHD005.COMPLETE(1>288)-> TCTATGGCCTAATGAACAACCTTCAGGTAATGAGTATGGTGTTCAGGATTAATGCTA
TCTATGGCCTAATGAACAACCTTCAGGTAATGAGTATGGTGTTCAGGATTAATGCTA

130 140 150 160 170 180
RCHD005.COMPLETE(1>288)-> ATTTCAGCAGGTATATTTTCAGCCACTCTTTCAGCATTAGCATGCGTAGTGTGCT
ATTTCAGCAGGTATATTTTCAGCCACTCTTTCAGCATTAGCATGCGTAGTGTGCT

190 200 210 220 230 240
RCHD005.COMPLETE(1>288)-> CCCAAAATATTTTCAGGCTCTATGTAAGGACAACATCTACCCAGCTTTCAGATGTTTCT
CCCAAAATATTTTCAGGCTCTATGTAAGGACAACATCTACCCAGCTTTCAGATGTTTCT

250 260 270 280
RCHD005.COMPLETE(1>288)-> AAAGGTTATGGGAAAAATAATGAACCTCTTGGTGGCTGCATCTAAGCC
AAAGGTTATGGGAAAAATAATGAACCTCTTGGTGGCTGCATCTAAGCC

FIG. 1

10 20 30 40 50
RCHD024.COMPLETE.SEQ(1>178)-> AAAAATAAATAAATTAAAGTCTGAGAGCCAATTGCGCACTGTGAATATAAG
AAAAATAAATAAATTAAAGTCTGAGAGCCAATTGCGCACTGTGAATATAAG

60 70 80 90 100
RCHD024.COMPLETE.SEQ(1>178)-> CACATTAAACCCAGGAGGAGCCAAGAACTACACAAAGCTCTCTATGAGAA
CACATTAAACCCAGGAGGAGCCAAGAACTACACAAAGCTCTCTATGAGAA

110 120 130 140 150
RCHD024.COMPLETE.SEQ(1>178)-> TTTACCACTCTCTTTTCATTGCGCAAGAAAAAGCTCAGGAAAAATTGCTT
TTTACCACTCTCTTTTCATTGCGCAAGAAAAAGCTCAGGAAAAATTGCTT

160 170
RCHD024.COMPLETE.SEQ(1>178)-> GTTTAAATTCATGAGCCTAGTCTATGG
GTTTAAATTCATGAGCCTAGTCTATGG

FIG. 2

10 20 30 40 50
RCHD032.COMPLETE.SEQ(1>101)-> GGTAATTCATTAATTACACTTTAAAAATTGGAAAGTGGGATAAGAAATCT
GGTAATTCATTAATTACACTTTAAAAATTGGAAAGTGGGATAAGAAATCT

60 70 80 90 100
RCHD032.COMPLETE.SEQ(1>101)-> AAAGTAAACCAGCTTATCTTTGAAACAATATTTTGAATTGGCTTTA
AAAGTAAACCAGCTTATCTTTGAAACAATATTTTGAATTGGCTTTA

RCHD032.COMPLETE.SEQ(1>101)-> A
A

FIG. 3

8640E0" 9824E060

```
      10      20      30      40      50
RCHD036.COMPLETE.SEQ(1>184)-> GGCTTGGTGGTGATGCCTACAAGAAATGTTTACATACAACACTCTATAC
      GGCTTGGTGGTGATGCCTACAAGAAATGTTTACATACAACACTCTATAC

      60      70      80      90     100
RCHD036.COMPLETE.SEQ(1>184)-> ATCTAACTCCCGAAAAAGGACCGCTATTTCGGCAACAGAAAAAGACAA
      ATCTAACTCCCGAAAAAGGACCGCTATTTCGGCAACAGAAAAAGACAA

      110     120     130     140     150
RCHD036.COMPLETE.SEQ(1>184)-> GCATTTCAGAGGAGCGTTGCTTTCTTAAAGACCTAACTCACTTAAGTCT
      GCATTTCAGAGGAGCGTTGCTTTCTTAAAGACCTAACTCACTTAAGTCT

      160     170     180
RCHD036.COMPLETE.SEQ(1>184)-> TACAAACAGAAATAACAAGGAGGACAATTTTCTA
      TACAAACAGAAATAACAAGGAGGACAATTTTCTA
```

FIG. 4

M G L L P K L G A S Q G S D T S T S R A 20
 ATG GGG CTC CTG CCC AAG CTC GGC GCG TCC CAG GGC AGC GAC ACC TCT ACT AGC CGA GCC 60
 G R C A R S V F G N I K V F V L C Q G L 40
 GGC CGC TGT GCC CGC TCG GTC TTC GGC AAC ATT AAG GTG TTT GTG CTC TGC CAA GGC CTC 120
 L Q L C Q L L Y S A Y F K S S L T T I E 60
 CTG CAG CTC TGC CAA CTC CTG TAC AGC GCC TAC TTC AAG AGC AGC CTC ACC ACC ATT GAG 180
 K R P G L S S S S S G L I S S L N E I S 80
 AAG CGC TTT GGG CTC TCC AGT TCT TCA TCG GGT CTC ATT TCC AGC TTG AAT GAG ATC AGC 240
 N A I L I I F V S Y F G S R V H R P R L 100
 AAT GCC ATC CTC ATC ATC TTT GTC AGC TAC TTT GGC AGC CGG GTG CAC CGT CCA CGT CTG 300
 I G I G G L F L A A G A F I L T L P H F 120
 ATT GGC ATC GGA GGT CTC TTC CTG GCT GCA GGT GCC TTC ATC CTC ACC CTC CCA CAC TTC 360
 L S E P Y Q Y T L A S T G N N S R L Q A 140
 CTC TCC GAG CCC TAC CAG TAC ACC TTG GCC AGC ACT GGG AAC AAC AGC CGC TTG CAG GCC 420
 E L C Q K H W Q D L P P S K C H S T T Q 160
 GAG CTC TGC CAG AAG CAT TGG CAG GAC CTG CCT CCC AGT AAG TGC CAC AGC ACC ACC CAG 480
 N P Q K E T S S M W G L M V V A Q L L A 180
 AAC CCC CAG AAG GAG ACC AGC AGC ATG TGG GGC CTG ATG GTG GTT GCC CAG CTG CTG GCT 540
 G I G T V P I Q P F G I S Y V D D F S E 200
 GGC ATC GGG ACA GTG CCT ATT CAG CCA TTT GGG ATC TCC TAT GTG GAT GAC TTC TCA GAG 600
 P S N S P L Y I S I L F A I S V F G P A 220
 CCC AGC AAC TCG CCC CTG TAC ATC TCC ATC TTA TTT GCC ATC TCT GTA TTT GGA CGG GCT 660
 F G Y L L G S V M L Q I F V D Y G R V N 240
 TTC GGG TAC CTG CTG GGC TCT GTC ATG CTG CAG ATC TTT GTG GAC TAT GGC AGG GTC AAC 720
 T A A V N L V P G D P R W I G A W W L G 260
 ACA GCT GCA GTT AAC TTG GTC CCG GGT GAC CCC CGA TGG ATT GGA GCC TGG TGG CTA GGC 780
 L L I S S A L L V L T S F P F F F F P R 280
 CTG CTC ATT TCT TCA GCT TTA TTG GTT CTC ACC TCT TTC CCC TTT TTT TTC TTC CCT CGA 840
 A M P I G A K R A P A T A D E A R K L E 300
 GCA ATG CCC ATA GGA GCA AAG AGG GCT CCT GCC ACA GCA GAT GAA GCA AGG AAG TTG GAG 900
 E A K S R G S L V D F I K R F P C I F L 320
 GAG GCC AAG TCA AGA GGC TCC CTG GTG GAT TTC ATT AAA CGG TTT CCA TGC ATC TTT CTG 960
 R L L M N S L F V L V V L A Q C T F S S 340
 AAG CTC CTG ATG AAC TCA CTC TTC GTC CTG GTG GTC CTG GCC CAG TGC ACC TTC TCC TCC 1020
 V I A G L S T F L N K F L E K Q Y G T S 360
 GTC ATT GCT GGC CTC TCC ACC TTC CTC AAC AAG TTC CTG GAG AAG CAG TAT GGC ACC TCA 1080
 A A Y A N F L I G A V N L P A A A L G M 380
 GCA GCC TAT GCC AAC TTC CTC ATT GGT GCT GTG AAC CTC CCT GCT GCA GCC TTG GGG ATG 1140
 L F G G I L M K R F V F S L Q A I P R I 400
 CTG TTT GGA GGA ATC CTC ATG AAG CCG TTT GTT TTC TCT CTA CAA GCC ATT CCC CGC ATA 1200
 A T T I I T I S M I L C V P L F F M G C 420
 GCT ACC ACC ATC ATC ACC ATC TCC ATG ATC CTT TGT GTT CCT TTG TTC TTC ATG GGA TGC 1260

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FIG. 5A

S T P T V A E V Y P P S T S S S I H P Q 440
 TCC ACC CCA ACT GTG GCC GAA GTC TAC CCC CCT AGC ACA TCA AGT TCT ATA CAT CCG CAG 1320
 S P A C R R D C S C P D S I F H P V C G 460
 TCT CCT GCC TGC CGC AGG GAC TGC TCG TGC CCA GAT TCT ATC TTC CAC CCG GTC TGT GGA 1380
 D N G I E Y L S P C H A G C S N I N M S 480
 GAC AAT GGA ATC GAG TAC CTC TCC CCT TGC CAT GCC GGC TGC AGC AAC ATC AAC ATG AGC 1440
 S A T S K Q L I Y L N C S C V T G G S A 500
 TCT GCA ACC TCC AAG CAA CTG ATC TAT TTG AAC TGC AGC TGT GTG ACC GGG GGA TCC GCT 1500
 S A K T G S C P V P C A H F L L P A I F 520
 TCA GCA AAG ACA GGA TCG TGC CCT GTC CCC TGT GCC CAC TTC CTG CTC CCG GCC ATC TTC 1560
 L I S F V S L I A C I S H N P L Y M M V 540
 CTC ATC TCC TTC GTG TCC CTG ATA GCC TGC ATC TCC CAC AAC CCC CTC TAC ATG ATG GTT 1620
 L R V V N Q E E K S F A I G V Q F L L M 560
 CTG CGT GTG GTG AAC CAG GAG GAA AAG TCA TTT GCC ATC GGG GTG CAG TTC TTG TTG ATG 1680
 R L L A W L P S P A L Y G L T I D H S C 580
 CGC TTG CTG GCC TGG CTG CCA TCT CCA GCC CTC TAT GGC CTC ACC ATT GAC CAC TCC TGC 1740
 I R W N S L C L G R R G A C A Y Y D N D 600
 ATC CGG TGG AAC TCG CTG TCG TTG GGG AGG CGA GGG GCC TGC GCC TAC TAT GAC AAC GAT 1800
 A L R D R Y L G L Q M G Y K A L G M L L 620
 GCT CTC CGA GAC AGG TAC CTG GGC CTG CAG ATG GGC TAC AAG GCG CTG GGC ATG CTG CTG 1860
 L C F I S W R V K K N K E Y N V Q K A A 640
 CTT TGC TTC ATC AGC TGG AGG GTG AAG AAG AAC AAG GAG TAC AAC GTG CAG AAG GCG GCA 1920
 G L I * 643
 GGC CTC ATC TGA 1929
 CCCCACCTGGGCCACTGYCCTGCTCCAGAGAGTGGACCTTGACTCTCCACACCTGCCCTATACTCACTAATGTGAACA
 CGTCATTTCCTKTTTGTATTTTAAAGA

FIG. 5B

[illegible]

FIG. 6A

S N S C L M P L I Y S F L G E T F R D K 334
 TCC AAC ACC TCC CTA AAC CCC CTC ATC TAC ACC TTT CTC GCG GAG ACC TTC AGG GAC AAG 1540
 L R L Y I E Q K T N L P A L D R F C H A 354
 CTG AGG CTG TAC ATT GAG CAG AAA ACA AAT TTG GCG CCC CTG GAC GCG TTC TGT CAC GCT 1620
 A L R A V I P D S T E Q S D V R F S S A 374
 GCG CTG AAG GCG GTC ATT CCA GAC ACC ACC GAG CAG TGG GAT GTG AGG TTC ACC AGT GCG 1680
 V * 375
 GTG TAG ACAGCCTTGGGCGCATAGGCGCAAGCCAGGCTGTGACTGGGAGCTGCACAGCTGGGTGGACAGAGCCA 1757
 CCGCCAGGTCACTCTCTAAACTGGGTGAGATGTGGCTTCTGGCTCTCGGGCTGGCGAGGCTCAGGCTTGGCTGGT 1836
 CAGCCTGGGCTGCTTAGGAAAGCTCAGGACTGTGAGCTTGCAGCTCTCAGACAGAACTGCTACAAATCCCAAGGCT 1915
 CCGCGCGCAGGTCCAAAGGCGCAGGCTGAGCAGGCTGTGACCGAGCTCTCGCGCGCAGGCTGGCTGGCGCTGGCC 1994
 TCGCGCTGCTGAGGAACATTTCTGACAGGCTGGACCGAAAGCCACAGCAGAGGCTCTGTGGGTGAGCGCT 2073
 CAGTGCACAGGAAGCTTAAGCGAAATCTGCCAGGTGGGGAAGTGAAGCTGAGATCGAGGTGCTGGTCTGA 2152
 GCTGAGGTGGGCTGTGTGCTCTGTGGCGAGGTCTGAGCTAGCTAGCGCAGCGCGGTGAAGAGCAGAGGAAAA 2231
 CATGCTGCTCTGTGTCAGGCTGAGGCTGCTGCACTTTCCAGGATGGCAGCAATGGGCTGTGGCGGCTCAGCGGGCC 2310
 AGGAGGAGCAGCGGCTCGCGCGGAGCAGCAGAAAGCGGCTCTGTGAGCGCGCGGCTGCTGCTCGCGGCTGTGTC 2389
 AGTCACTGCTGTGTGACATCAATGCGAATTCAGTCAATGAGCTGGGAGGCTGGCGAGCTGGGCTGTGGGTGAGTGG 2468
 GGTGCCAGGCAATGAATACTCCAGCAGCTGTGGCTGAGGAATGGTTCTACAGAGTGAAGCTGGGAGCACTGC 2547
 GATGATGATGAAAAAGCTTCCATAAAAAAGCC 2542

FIG. 6B

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FIG. 7A

| | |
|---|------|
| D S P T F G E H Q L A S S S E V Q N G S | 434 |
| GAT TCC CCA ACC TTT GGA GAA CAT CAG CTT GCC AGC AGC TCT GAG GTG CAA AAT GGA AGT | 1302 |
| P M S Q T E T V S R S V A P M R G G E I | 454 |
| CCC ATG TCT CAG ACT GAG ACT GTG TCT AGG TCA GTC GCA CCC ATG AGA GGT GGA GAG ATC | 1362 |
| T A H W L L T N S T T S A D V T G S S A | 474 |
| ACT GCA CAC TGG CTC TTG ACC AAC AGC ACA ACA TCT GCA GAT GTG ACA GGA AGC TCT GCT | 1422 |
| S Y P E G V N A S V L T Q F S D S T V Q | 494 |
| TCA TAT CCT GAA GGT GTG AAT GCT TCA GTG TTG ACC CAG TTC TCA GAC TCT ACT GTA CAG | 1482 |
| S G G S H T A L G D R S Y S E S S S T S | 514 |
| TCT GGA GGA AGT CAC ACA GCA TTG GGA GAT AGG AGT TAT TCA GAG TCT TCA TCT ACA TCT | 1542 |
| S S E S L N S S A P R G E R S T L E D S | 534 |
| TCC TCG GAA AGC TTG AAT TCA TCA GCA CCA CGT GGA GAA CGT TCA ACC TTG GAA GAC AGC | 1602 |
| R E P G Q A L G D S S A N A E D R T S G | 554 |
| CGA GAG CCA GGC CAA GCA CTA GGT GAC AGT TCC GCC AAT GCA GAG GAC AGG ACT TCT GGG | 1662 |
| V P S L G T H T L A T V T G N G E R T L | 574 |
| GTG CCC TCT CTC GGC ACC CAC ACC TTG GCT ACT GTC ACT GGA AAC GGG GAA CGC ACA CTG | 1722 |
| R S V T L T N T S M S T T S G E A G S P | 594 |
| CGG TCT GTC ACC CTC ACC AAC ACC AGC ATG AGC ACG ACT TCT GGG GAA GCA GGC AGC CCT | 1782 |
| A A A M P Q E T E G A S L H V N V T D D | 614 |
| GCA GCG GCC ATG CCC CAA GAA ACA GAG GGT GCC TCT CTG CAC GTA AAC GTG ACG GAC GAC | 1842 |
| M G L V S R S L A A S S A L G V A G I S | 634 |
| ATG GGC CTG GTC TCA CGG TCA CTG GCC GCC TCC AGT GCA CTC GGA GTC GCT GGG ATT AGC | 1902 |
| Y G Q V R G T A I E Q R T S S D H T D H | 654 |
| TAC GGT CAA GTG CGT GGC ACA GCT ATT GAA CAA AGG ACT TCC ACG GAC CAC ACA GAC CAC | 1962 |
| T Y L S S T F T K G E R A L L S I T D N | 674 |
| ACC TAC CTG TCA TCT ACT TTC ACC AAA GGA GAA CGG GCG TTA CTG TCC ATT ACA GAT AAC | 2022 |
| S S S S D I V E S S T S Y I K I S N S S | 694 |
| AGT TCA TCC TCA GAC ATT GTG GAG AGC TCA ACT TCT TAT ATT AAA ATC TCA AAC TCT TCA | 2082 |
| H S E Y S S F S H A Q T E R S N I S S Y | 714 |
| CAT TCA GAG TAT TCC TCC TTT TCT CAT GCT CAG ACT GAG AGA AGT AAC ATC TCA TCC TAT | 2142 |
| D G E Y A Q P S T E S P V L H T S N L P | 734 |
| GAC GGG GAA TAT GCT CAG CCT TCT ACT GAG TCG CCA GTT CTG CAT ACA TCC AAC CTT CCG | 2202 |
| S Y T P T I N M P N T S V V L D T D A E | 754 |
| TCC TAC ACA CCC ACC ATT AAT ATG CCG AAC ACT TCG GTT GTT CTG GAC ACT GAT GCT GAG | 2262 |
| F V S D S S S S S S S S S S S S G P | 774 |
| TTT GTT AGT GAC TCC TCC TCC TCC TCT TCC TCC TCC TCT TCT TCT TCT TCA GGG CCT | 2322 |
| P L P L P S V S Q S H H L F S S I L P S | 794 |
| CCT TTG CCT CTG CCC TCT GTG TCA CAA TCC CAC CAT TTA TTT TCA TCA ATT TTA CCA TCA | 2382 |
| T R A S V H L L K S T S D A S T P W S S | 814 |
| ACC AGG GCC TCT GTG CAT CTA CTA AAG TCT ACC TCT GAT GCA TCC ACA CCA TGG TCT TCC | 2442 |
| S P S P L P V S L T T S T S A P L S V S | 834 |
| TCA CCA TCA CCT TTA CCA GTA TCC TTA ACG ACA TCT ACA TCT GCC CCA CTT TCT GTC TCA | 2482 |

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FIG. 7B

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| | |
|---|------|
| Q T T L P Q S S S T P V L P R A R E T P | 854 |
| CAA ACA ACC TTG CCA CAG TCA TCT TCT ACC CCT GTC CTG CCC AGG GCA AGG GAG ACT CCT | 2542 |
| V T S F Q T S T M T S F M T M L H S S Q | 874 |
| GTG ACT TCA TTT CAG ACA TCA ACA ATG ACA TCA TTC ATG ACA ATG CTC CAT AGT AGT CAA | 2602 |
| T A D L K S Q S T P H Q E K V I T E S K | 894 |
| ACT GCA GAC CTT AAG AGC CAG AGC ACC CCA CAC CAA GAG AAA GTC ATT ACA GAA TCA AAG | 2682 |
| S P S L V S L P T E S T K A V T T N S P | 914 |
| TCA CCA AGC CTG GTG TCT CTG CCC ACA GAG TCC ACC AAA GCT GTA ACA ACA AAC TCT CCT | 2742 |
| L P P S L T E S S T E Q T L P A T S T N | 934 |
| TTG CCT CCA TCC TTA ACA GAG TCC TCC ACA GAG CAA ACC CTT CCA GCC ACA AGC ACC AAC | 2802 |
| L A Q M S P T F T T T I L K T S Q P L M | 954 |
| TTA GCA CAA ATG TCT CCA ACT TTC ACA ACT ACC ATT CTG AAG ACC TCT CAG CCT CTT ATG | 2862 |
| T T P G T L S S T A S L V T G P I A V Q | 974 |
| ACC ACT CCT GGC ACC CTG TCA AGC ACA GCA TCT CTG GTC ACT GGC CCT ATA GCC GTA CAG | 2922 |
| T T A G K Q L S L T H P E I L V P Q I S | 994 |
| ACT ACA GCT GGA AAA CAG CTC TCG CTG ACC CAT CCT GAA ATA CTA GTT CCT CAA ATC TCA | 2982 |
| T E G G I S T E R N R V I V D A T T G L | 1014 |
| ACA GAA GGT GGC ATC AGC ACA GAA AGG AAC CGA GTG ATT GTG GAT GCT ACC ACT GGA TTG | 3042 |
| I P L T S V P T S A K E M T T K L G V T | 1034 |
| ATC CCT TTG ACC AGT GTA CCC ACA TCA GCA AAA GAA ATG ACC ACA AAG CTT GGC GTT ACA | 3102 |
| A E Y S P A S R S L G T S P S P Q T T V | 1054 |
| GCA GAG TAC AGC CCA GCT TCA CGT TCC CTC GGA ACA TCT CCT TCT CCC CAA ACC ACA GTT | 3162 |
| V S T A E D L A P K S A T F A V Q S S T | 1074 |
| GTT TCC ACG GCT GAA GAC TTG GCT CCC AAA TCT GGC ACC TTT GCT GTT CAG AGC AGC ACA | 3222 |
| Q S P T T L S S S A S V N S C A V N P C | 1094 |
| CAG TCA CCA ACA ACA CTG TCC TCT TCA GCC TCA GTC AAC AGC TGT GCT GTG AAC CCT TGT | 3282 |
| L H N G E C V A D N T S R G Y H C R C P | 1114 |
| CTT CAC AAT GGC GAA TGC GTC GCA GAC AAC ACC AGC CGT GGC TAC CAC TGC AGG TGC CCG | 3342 |
| P S W Q G D D C S V D V N E C L S N P C | 1134 |
| CCT TCC TGG CAA GGG GAT GAT TCC AGT GTG GAT GTG AAT GAG TGC CTG TCG AAC CCC TGC | 3402 |
| P S T A T C N N T Q G S F I C K C P V G | 1154 |
| CCA TCC ACA GCC ACG TGC AAC AAT ACT CAG GGA TCC TTT ATC TGC AAA TGC CCG GTT GGG | 3462 |
| Y Q L E K G I C N L V R T P V T E F K L | 1174 |
| TAC CAG TTG GAA AAA GGG ATA TGC AAT TTG GTT AGA ACC TTC GTG ACA GAG TTT AAA TTA | 3522 |
| K R T F L N T T V E K H S D L Q E V E N | 1194 |
| AAG AGA ACT TTT CTT AAT ACA ACT GTG GAA AAA CAT TCA GAC CTA CAA GAA GTT GAA AAT | 3582 |
| E I T K T L N M C F S A L P S Y I R S T | 1214 |
| GAG ATC ACC AAA ACG TTA AAT ATG TGT TTT TCA GCG TTA CCT AGT TAC ATC CGA TCT ACA | 3642 |
| V H A S R E S N A V V I S L Q T T F S L | 1234 |
| GTT CAC GCC TCT AGG GAG TCC AAC GCG GTG GTG ATC TCA CTG CAA ACA ACC TTT TCC CTG | 3702 |
| A S N V T L F D L A D R M Q K C V N S C | 1254 |
| GCC TCC AAT GTG ACG CTA TTT GAC CTG GCT GAT AGG ATG CAG AAA TGT GTC AAC TCC TGC | 3762 |

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FIG. 7C

| | |
|---|------|
| K S S A E V C Q L L G S Q R R I F R A G | 1274 |
| AAG TCC TCT GCT GAG GTC TGC CAG CTC TTG GGA TCT CAG AGG CCG ATC TTT AGA GCG GGC | 3822 |
| S L C K R K S P E C D K D T S I C T D L | 1294 |
| AGC TTG TGC AAG CCG AAG AGT CCC GAA TGT GAC AAA GAC ACC TCC ATC TGC ACT GAC CTG | 3862 |
| D G V A L C Q C K S G Y F Q F N K M D H | 1314 |
| GAC GGC GTT GCC CTG TGC CAG TGC AAG TCG GGA TAC TTT CAG TTC AAC AAG ATG GAC CAC | 3942 |
| S C R A C E D G Y R L E N E T C M S C P | 1334 |
| TCC TGC CGA GCA TGT GAA GAT GGA TAT AGG CTT GAA AAT GAA ACC TGC ATG AGT TGC CCA | 4002 |
| F G L G G L N C G N P Y Q L I T V V I A | 1354 |
| TTT GGC CTT GGT GGT CTC AAC TGT GGA AAC CCC TAT CAG CTT ATC ACT GTG GTG ATC GCA | 4062 |
| A A G G G L L L I L G I A L I V T C C R | 1374 |
| GCC GCG GGA GGT GGG CTC CTG CTC ATC CTA GGC ATC GCA CTG ATT GTT ACC TGT TGC AGA | 4122 |
| K N K N D I S K L I F K S G D F Q M S P | 1394 |
| AAG AAT AAA AAT GAC ATA AGC AAA CTC ATC TTC AAA AGT GGA GAT TTC CAA ATG TCC CCA | 4182 |
| Y A E Y P K N P R S Q E W G R E A I E M | 1414 |
| TAT GCT GAA TAC CCC AAA AAT CCT CGC TCA CAA GAA TGG GGC CGA GAA GCT ATT GAA ATG | 4242 |
| H E N G S T K N L L Q M T D V Y Y S P T | 1434 |
| CAT GAG AAT GGA AGT ACC AAA AAC CTC CTC CAG ATG ACG GAT GTG TAC TAC TCG CCT ACA | 4302 |
| S V R N P E L E R N G L Y P A Y T G L P | 1454 |
| AGT GTA AGG AAT CCA GAA CTT GAA CGA AAC GGA CTC TAC CCG GCC TAC ACT GGA CTG CCA | 4362 |
| G S R H S C I F P G Q Y N P S F I S D E | 1474 |
| GGA TCA CCG CAT TCT TGC ATT TTC CCC GGA CAG TAT AAC CCG TCT TTC ATC AGT GAT GAA | 4422 |
| S R R R D Y F * | 1481 |
| AGC AGA AGA AGA GAC TAC TTT TAA GTCCAGGAGAGAGAGGGACTCATGTGCTCTGAGCCAG | 4482 |
| TCACCTGGGACCTCTGCTCAGAGGACCGCACCAGGAGGCTCGCGCCAGGATTTGTCCGGA | 4542 |
| GCCACGCTGAGTGGCAAGCAAGGAAGAGGGACAGGCATGCGGGGGGTGACCACAGTGGAGG | 4602 |
| AGACAGGTGGATGTGGAACCAAGGCTGCTCATTGAGCAGCTTTGTTGTTACTGTGAACG | 4662 |
| TGAATGTGGGCCAGTATCAAGAGAGTCTCTCTGAGTGACTGCACCATGGCACTGGCACCA | 4722 |
| GGGCGACTATTAGCCAGGGCAGACCACTAGACTTCAGTGCAGGGACCTGGTTTTCCTTC | 4782 |
| GTTTGCACTTTAGTAAATTTGGGTGGGAGGTTTCCTTTTGGATCTGTTTGTGAGACTGTTCC | 4842 |
| AGAAAGAAGGCTTCTTTTCCCGAGACACTTCCATAGGCAGCAATTTGGTGATTCAATTGC | 4902 |
| ASCAAAATACTGGCTGTGTTAATTATTTTCTGCCCAGCRCTGGGTGCTAAACAACAGAT | 4962 |
| GAGGATGASCGTACCACTGAAGTCTGAAGATGTGCGCATTGAACGGACAGTGTTTTCATA | 5022 |
| TGTTTCTAGGTTGTCTTATGCTACAGTTTCCAAGCCASCCCCACAGTGAGGAAATGTGT | 5082 |
| GAGGCACCGCACAACTGCAATGTGTTTYYTAAGTCAAGGTGACACATGTATTTAAGAT | 5142 |
| TTTTTTTTTAAATCTCYTTGCAAGTTAAATCTCACTTTTTCAAAACAAGCTGGATCAGGGC | 5202 |
| AAAACAACCTTATATYTGTTTGTAGCTGGAGGCTCAGCAGGCAGATTGCAGGCAGGGGGGC | 5262 |
| ACTTTTCATCCATGAGGGCCAGCCTGGGGCCTGGGACTCTGATCACCATTGTGAGGGCC | 5322 |

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FIG. 7D

AGAGGCAMCTGGGTATGGAGGAGAAATGTCAAACCTGAACGCAGGTTTCACCACTCTAGGA 5382
AAGCAGCTTGTGTGACCCOCTGCASCTGGATGTGGTTAGAGGGATGGGCTGAATAGSCAGG 5442
TTAGATTTCCTGCATCAACAGTGCTTTGGGAASCTGTGTGGATTCTCGAGGAAGAACAGG 5502
GAGCCGAGATGGAGCCACACATGAATTYGCTCACCGGCTACTGCAGCACTTTGTACCCAG 5562
AATCTCATGTCCACAAACCCCATGTAAACTTTCAACCACTCAAAGSTGTTTATTCGGCTG 5622
AAGAAATAACTTTTKTTTCTCACCCAGTCATTTGTACCTCTTCATATGGSTATGTCCAC 5682
CCTCCAGAAACGTGGTTTATACTKCCAGTCAGTGTGGGAGAACTGAAGACTTCGGGTGGT 5742
CGAGGAACTGAGGGTTGACCTTCGGGAAGGAAGTCCACTCATCTTATTTATTATGCOCTG 5802
TGATGTGGGTCTCTCCAGGGAGACATCCAGTACTGGGTGTCTKTAATTGCCACCTGGGGA 5862
ACTGTGTTTATTGGCCTTCTTTGGGGCATCTGGKTTGCGATGAAGTGAGGGGAATACAG 5922
AGGTAAAAGAATTGTCTCCACCTGAAGCGGGGAGTCCCGCTTCACATTTCTGGAAATGG 5982
TGCAGCCACTGGGGACAGTTCTGCCCCGGGCATGGTTGTTTCTTCAAGGTCTCTAAATA 6042
TAATCCCTATTTCTTACATAAATCTTGGCCCTGATGGTTTAAAGCAAGAACTCCTGTGTCC 6102
MATGGTCTCCACCACTCACCATCAOCTGCTGTAGCAAGAGTCTTAGTCAGGGGAGGTGC 6162
ATTTTAGTAGTTACATTGCACTTATCCATGAGATAAATAAAGGAGAVCTGTTTTTATCA 6222
GTGGAGGCTAACCTAAAATTTCAAAGTGTGCGCTTTTGAATCTTGGGCCTCTCTCTCT 6282
GTAGAACCAATGCCCTTTGTGGCTCAGGGCTCGCACCTAACTGGAGAGTTCTGAGCTC 6342
CTGCAGCTCACCTGAGCCACAGACTAGGCTTCTTGGCTCCTTCCGC 6389

| | |
|---|------|
| GAATTGACAGGAGGACAGGAGCTGCTTTTCTGCGTTCCCAATCGGGCTTAAGGTTGAGCTTTCA | 16 |
| GCTTCTGCGGGGACGGAAGCAGGGGACTCAGGAGGCCCCCTCCCAATCCAGAGCCCCCTTTTGGAGGGGGGAAACTTG | 147 |
| GCAACCGGGGAGGACATGTGGATCTTTTTCCTAAGCAAGATGCTGAGCTGGAAAGAATGGGGGTGAAGGTAAATGTCCAAA | 226 |
| CTGAAACTTTTCCAGGCTCTGGGAGAGGCTGTGAAGCTTTTCTGCGCTTTAGAAATTTAGGCTAGATCCCAAAAGGCTA | 305 |
| AGTACCGGCTCGGGGCTAAGCAGAGGACATGCGTGGGCTGAGCTGAAGCTTCTGCTGAGCTGGGGGCTGCGTACTGCTC | 384 |
| TTCTGACGGAAGTTTGGAGGAGATTCCTGAAGTTGATTCCTCAGGCTGGATGTCCAAAGGGGTGAGTTTCTGAGTGTCT | 463 |
| TTCTGTCTGCGCTCTCTTTTCTTTCTCTGCGTACCAAGTCCACTTCTTTGAGAGGGGGGCTCGGCTGCTCAGAAAGTTCTC | 542 |
| CTGTTAAAGTTTAGAGCAAAATGTTGTAATTTTAAATCATAAAGCTTTTAAAGTACTAGAGCAACTTCTAGAGAG | 621 |
| GGAGTGGACAGAGGGGGCTGGTGGCGGCTCAGAGTTCTTTTCTGAGCTTTGCTCTCAGCCAGCAAGTGTGCCAGCTGAG | 700 |
| TGCGGAGCTTGGCGAGCTGAGGTAAATGGGCTGGGGCTCCAGAGTCCAGATCCAGAGGGGGGAGGCCATGTGGGAGTGGC | 779 |
| GCGTGATTTGTAACCGAGTATGTTGAGAGGCAATATTCATTAAGCAAGCAAGAGAGAGCAAGCAAGCAAGCAAGTCCATAG | 858 |
| CTGATAAATGAGTAATGMAATATGTTAGCTGGAGAGATGAGATATCATTCACCATGAAAGAGAGAGAGTCCAGCA | 937 |
| CCAAAAGTCTACACATGAGTGAAGTCTGAGTACTTTGTGGCAGTGAAGAGAGAGGGGAGGCCAGCAAAAGGCGCATAT | 1016 |
| ATTGTATGAATGAA ATG TGC AGA ATG GGC AAA CCC ATA GAG ACA CAA AAA TCT CCG CCA OCT | 16 |
| 1079 | |
| P Y S R L S S P R D E G Y T A K P L D L S D S T | 36 |
| CCC TAC TCT CCG CTG TCT OCT ODC GAC GAG TAC AAC CGA CTA GTT TGC TGC GAT TCC ACA | 1139 |
| L S Y T E T E A T N S L I T A P G E F S | 56 |
| TTG TCT TAC ACT GAA AGG GAG GCT ACC AAC TCC CTC ATC ACT OCT CCG GGT GAA TTC TCA | 1139 |
| D A S H S P D A T K P S H M C S V A Y W | 76 |
| GAC GGC AOC ATG TCT CCG GAC GGC ACC AAG CGC AGC CAC TGC TCC AOC GTG CCG TAC TGG | 1259 |
| E H R C R G T C R V G R L Y A V Y D Q A V S I F | 96 |
| GAG CAC CCG AGC GCG GTG GGC GGC CTC TAT CCG GTC TAC GAC CAG GGC GTC ACC ATC TTC | 1319 |
| Y D L P Q G S G F C L G Q L H L E Q R S | 116 |
| TAC GAC CTA OCT CAG GGC AOC GGC TTC TCC CTG GGC CAG CTC AAC CTG GAG CAG GGC AOC | 1379 |
| E S V R R T R S K I C F G I L L S K E G P | 136 |
| GAG TCG GTG GCG CGA AOC GGC AOC AAG ATC GGC TTC GGC ATC CTG CTC AOC AAG GAG OCC | 1439 |
| D G V W A Y N R G E H P I F V N S P T L | 156 |
| GAC GGC GTG TGG GGC TAC AAC GGC GGC GAG CAC GGC ATC TTC GTC AAC TCC CCG AGG CTG | 1499 |
| D A P G G G R A L V T V R K V P C P G Y S I K | 176 |
| GAC GCG CCG GCG GGC GGC CTC GTG CTC CAC AAG GTG CCC CCG GGC TAC TCC ATC AG | 1559 |
| V F D F E R S G L Q H A F E P D A A D G | 196 |
| GTC TTC CAC TTC GAG GGC TGG GGC CTG CAG CAC GCG CCC GAG CCG GAC GGC GGC GAC GGC | 1619 |
| P Y D P N S V R I S F A K G W G P C Y S | 216 |
| CCC TAC CAC CCG AAC AOC GTC GGC ATC AOC TTC GGC AAG GGC TGG GCG CCG TCC TAC TCC | 1679 |
| R Q F F I T S C P C T M L E I L L N H P R * | 235 |
| CGC CAG TTC ATC ACC TCC TCC CCC TCC TCC CTG GAG ATC CTC CTC AAC AAC CCC AGA TAG | 1739 |

FIG. 8A

1818
1897
1976
2055
2134
2213
2292
2371
2450
2529
2608
2687
2766
2845
2924
3003
3082
3083

FIG. 8B

ACGAGGACGACAGGCTGTGCGCGGTCTGCACGGCGCTCCGCGCGGAGCTTCATGTGGGGCTGCGACCCGCGCAGCCCG 79

| | | |
|---|---|------|
| CGCCTCGCTGAGGGAACGGACCCCGTAACCGGAGACCGCCTTCCCCCCCACCCCTGGCGCCAAAGGATATCGT | M | 1 |
| ATG | | 157 |
| F R S K R S G L V R R L W R S R V V P D | | 21 |
| TTC AGG TCC AAA CGC TCG GGG CTG GTG CGG CGA CTT TGG CGA AGT CGT GTG GTC CCC GAC | | 217 |
| R E E G G S G G G G G G D E D G S L G S | | 41 |
| CGG GAG GAA GGC GGC AGC GGC GGC GGC GGT GGC GGC GAC GAG GAT GGG AGC TTG GGC AGC | | 277 |
| R A E P A P R A R E G G G C G R S E V R | | 61 |
| CGA GCT GAG CCG GCC CCG CGG GCA AGA GAG GGC GGA GGC TGC GGC CGC TCC GAA GTC CGC | | 337 |
| P V A P R R P R D A V G Q R G A Q G A G | | 81 |
| CCG GTA GCC CCG CGG CGG CCC CGG GAC GCA GTG GGA CAG CGA GGC GCC CAG GGC CGC GGG | | 397 |
| R R R R A G G P P R P M S E P G A G A G | | 101 |
| AGG CGC CGG CGC GCA GGG GGC CCC CCG AGG CCC ATG TCG GAG CCA GGG GCC GGC GCT GGG | | 457 |
| S S L L D V A E P G G P G W L P E S D C | | 121 |
| AGC TCC CTG CTG GAC GTG GCG GAG CCG GGA GGC CCG GGC TGG CTG CCC GAG AGT GAC TGC | | 517 |
| E T V T C C L F S E R D A A G A P R D A | | 141 |
| GAG ACG GTG ACC TGC TGT CTC TTT TCG GAG CCG GAC GCC GCC GGC GCG CCC CGG GAC GCC | | 577 |
| S D P L A G A A L E P A G G G R S R E A | | 161 |
| AGC GAC CCC CTG GCC GGG GCG GCC CTG GAG CCG GCG GGC GGC GGG CGG AGT CGC GAA GCG | | 637 |
| R S R L L L L E Q E L K T V T Y S L L K | | 181 |
| CGC TCG CGG CTG CTG CTG CTG GAG CAG GAA CTC AAA ACC GTC ACG TAC TCG CTG CTG AAG | | 697 |
| R L K E R S L D T L L E A V E S R G G V | | 201 |
| CGG CTC AAG GAG CGC TCG CTG GAC ACG CTG CTG GAG GCG GTG GAG TCC CGC GGC GGC GTG | | 757 |
| P G G C V L V P R A D L R L G G Q P A P | | 221 |
| CCG GGC GGC TGC GTG CTG GTG CCG CGC GCC GAC CTC CGC CTG GGC GGC CAG CCC GCG CCG | | 817 |
| P Q L L L G R L F R W P D L Q H A V E L | | 241 |
| CCG CAG CTG CTG CTC GGC CGC CTC TTT CGC TGG CCC GAC CTG CAG CAC GCC GTG GAG CTG | | 877 |
| K P L C G C H S F A A A A D G P T V C C | | 261 |
| AAG CCC CTG TGC GGC TGC CAC AGC TTC GCC GCC GCC GAC GGC CCT ACC GTG TGC TGC | | 937 |
| N P Y H F S R L C G P E | | 281 |
| AAC CCC TAC CAC TTC AGC CGG CTC TGC GGG CCC GAA | | 997 |
| L S P R D E Y K P L D L S D S T L S Y T | | 301 |
| CTG TCT CCT CGC GAC GAG TAC AAG CCA CTG GAT CTG TCC GAT TCC ACA TTG TCT TAC ACT | | 1057 |
| E T E A T N S L I T A P G E F S D A S M | | 321 |
| GAA ACG GAG GCT ACC AAC TCC CTC ATC ACT GCT CCG GGT GAA TTC TCA GAC GCC AGC ATG | | 1117 |
| S P D A T K | | 341 |
| TCT CCG GAC GCC ACC AAG | | 1177 |
| R V G R L Y A V Y D Q A V S I F Y D L P | | 361 |
| CGC GTG GGC CGC CTC TAT GCG GTG TAC GAC CAG GGC GTC AGC ATC TTC TAC GAC CTA CCT | | 1237 |

long

FIG. 9A

7853-114

| | |
|---|------|
| Q G S G F C L G Q L N L E Q R S E S V R | 381 |
| CAG GGC AGC GGC TTC TGC CTG GGC CAG CTC AAC CTG GAG CAG CGC AGC GAG TCG GTG CGG | 1297 |
| R T R S K I G F G I L L S K E P D G V W | 401 |
| CGA ACG CGC AGC AAG ATC GGC TTC GGC ATC CTG CTC AGC AAG GAG CCC GAC GGC GTG TGG | 1357 |
| A Y N R G E H P I F V N S P T L D A P G | 421 |
| GCC TAC AAC CGC GGC GAG CAC CCC ATC TTC GTC AAC TCC CCG ACG CTG GAC GCG CCC GGC | 1417 |
| G R A L V V R K V P P G Y S I K V F D F | 441 |
| GGC CGC GCC CTG GTC GTG CGC AAG GTG CCC CCC GGC TAC TCC ATC AAG GTG TTC GAC TTC | 1477 |
| E R S G L Q H A P E P D A A D G P Y D P | 461 |
| GAG CGC TCG GGC CTG CAG CAC GCG CCC GAG CCC GAC GCC GCC GAC GGC CCC TAC GAC CCC | 1537 |
| N S V R I S F A K G W G P C Y S R Q F I | 481 |
| AAC AGC GTC CGC ATC ACG TTC GCC AAG GGC TGG GGG CCC TGC TAC TCC CGG CAG TTC ATC | 1597 |
| T S C P C W L E I L L N N P R * | 497 |
| ACC TCC TGC CCC TGC TGG CTG GAG ATC CTC CTC AAC AAC CCC AGA TAG | 1645 |
| TGGCGGCCCCGGCGGAGGGGGGGTGGGAGGCGCGGCCACCGCCACCTGCCGGCCTCGAGAGGGGGCGATGCCCCAGA | 1724 |
| GACACAGCCCCCAGGACAAAACCCCCCAGATATCATCTACCTAGATTTAATATAAAGTTTTATATATTATATGGAAAA | 1803 |
| AAAAAAAAAAAAAA | 1817 |

FIG. 9B

00044200 9824E060

CCCCTCGGGAGGAGCAGCACTATGTGAAGGGCCCGTGCTGCTGCTGCTGTGCCTGGGCTGCTGCCCAACTCGGGGCC

FIG. 10A

[illegible]

FIG. 10B.

7853-114

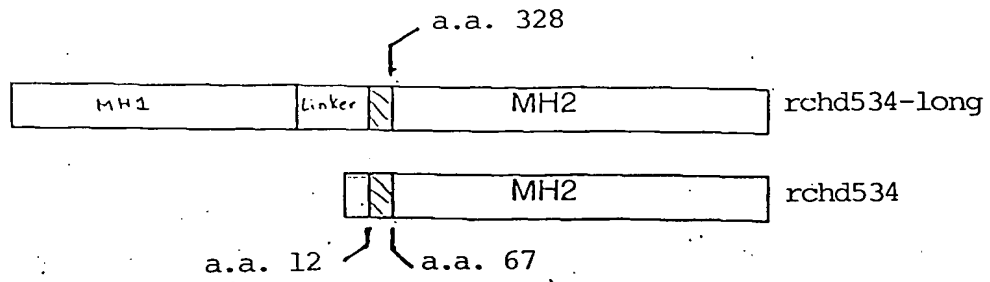


FIG. 11

864050" 9824E060

8640E0" 9824E060

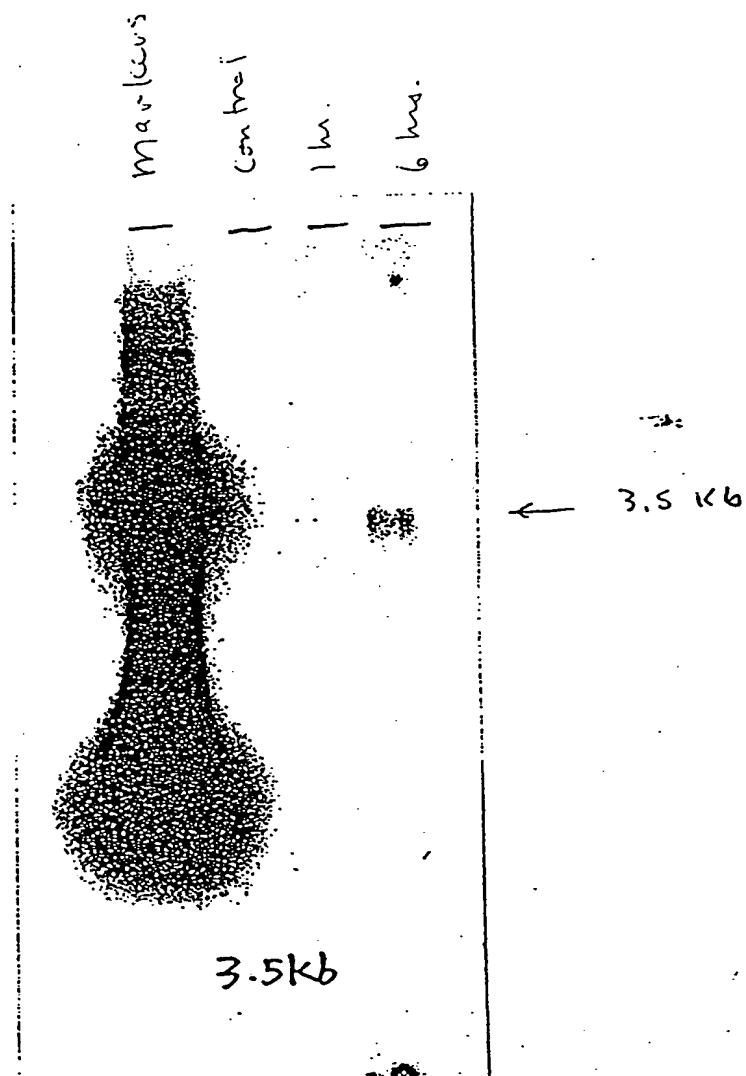


FIG. 12